
How to clear faults

Fault clearing process

When a fault must be cleared in the Meridian 1, follow these steps:

- Observe and record all fault indicators.

System messages, visual fault indicators, maintenance display codes, and user reports identify many problems. If the indicators are not current or seem incomplete, you may need to print the History File for previous messages, you may need to initialize the system for information on the current status, or you may need to do both.

- Look up all maintenance display codes and system messages in the *X11 system messages guide*.

The interpretation of the message or code may identify faulty equipment and tell you what action to take to clear the problem. If you cannot clear the fault through information in either of these guides, follow the process in this document to isolate and clear the fault (see [“Using this document” on page 4](#)).

- Try to test and enable disabled equipment.

You may be able to hardware reen able circuit cards by unseating them, then reinstalling them. You may be able to software reen able cards by disabling them, then reenabling them. When the cause of a fault is not clearly evident, a software test may help you identify the problem.

- Replace equipment as necessary.

When you identify faulty equipment, follow procedures in *Meridian 1 hardware replacement* (553-3001-520). When you think the fault is corrected, follow the instructions in “Final maintenance procedure” on page 177 to completely restore normal operation.

Using this document

To use the information in this document, follow the steps below:

- 1 Classify the fault by the indicators present (see [“Fault indicators” on page 6](#)). When multiple faults are indicated, clear them in the following order:
 - Power faults
 - Common equipment faults
 - Network equipment faults
 - Peripheral equipment faults
 - Trunk faults
 - Attendant console faults
 - Telephone faults

Note: Always clear possible power faults then common equipment faults before any other type of fault.

- 2 Go to the chapter for clearing the type of fault identified. There is a chapter for each type of fault listed above (for example, “Clearing power faults” on page 19). As closely as possible, match the problem to a symptom listed at the beginning of the chapter.
- 3 Go through the procedure for clearing each possible cause of the problem until the fault is cleared.
- 4 When the fault is corrected, follow the instructions in “Final maintenance procedure” on page 177 to completely restore normal operation.

[Procedure 1](#) is an example of the process described above.

Procedure 1**An example of how to use this document**

- 1 Classify the fault—The fault indicators are listed in [Table 1](#). They identify a common equipment fault.

Table 1**Using fault indicators to classify a fault**

Fault indicators	Type of fault
SYSTEM MESSAGE: CED013	Common equipment
VISUAL FAULT INDICATOR: Red LED lit on memory card	Common equipment
MAINTENANCE DISPLAY CODE: Code indicating a fault displayed on CPU interface card	Common equipment
USER REPORT: Major alarm reported by attendant	Common equipment

- 2 Go to the chapter for clearing the fault and match the symptom—Go to “Clearing common equipment faults” on page 45 and you will find “Fault indicated on memory card” in the table of contents.
- 3 Go through the procedures—Check for a defective memory card. If it is not defective, check for another defective common equipment card. If you find the CPU interface card is defective, you can disregard the remaining possible causes.
- 4 Go to “Final maintenance procedure” on page 177—Follow the instructions in each step.

Fault indicators

When there is a fault in the system, you may be notified by any combination of the following indicators:

- system messages
- visual fault indicators
- maintenance display codes
- user reports

Each type of indicator is described below.

System messages

System messages are codes with a mnemonic and number, such as PWR0014. The mnemonic identifies a software program or a type of message. The number identifies the specific message. Use system messages with other indicators, such as maintenance display codes and visual indicators, to identify and clear faults.

[Table 2](#) lists the most common fault indicating messages and the type of fault they indicate. For a complete list and interpretation of system messages, see the *X11 system messages guide*.

Table 2
System message fault indicators and related fault types (Part 1 of 2)

System messages	Type of fault
BSD090 PWR messages	Power
BSD080, 085, 086, 103 CED messages CIOD, CMON, and CNI messages INI001, 002, 004, 005 IOD006, 007, 060, 061, 291–297 NWS030, 102, 103, 142 SYS messages	Common equipment

Table 2
System message fault indicators and related fault types (Part 2 of 2)

System messages	Type of fault
BSD081, 101, 110, 111, 121, 130, 201–203, 205–209, 600, 602 CNF messages DTA, DTC, DTI messages ERR020, 120, 4060 INI003, 007–012 NWS101, 141, 201–204, 301, 401 OVD021, 022, 023, 031 TDS messages XMI messages	Network equipment
BSD301, 401, 402 ERR4062 NWS301, 401, 501 OVD001–010, 024 XMI messages	Peripheral equipment
ERR090, 220, 270 OVD003, 008, 009, 010 TRK messages	Trunk
BSD501	Attendant console
BSD501 ERR500 MWL500 NWS501 OVD001–002, 004, 005 XMI messages	Telephone

Visual fault indicators

There are visual indicators on the Meridian 1 that can help you identify faults. These indicators include:

- a major or minor alarm display on the attendant console: indicates a possible power, common equipment, or network equipment fault
- circuit card light emitting diodes (LEDs): indicate that a card or a unit on a card is disabled
- column LED: indicates a fault in the column

[Table 3](#) lists visual indicators you may see and the types of faults they indicate.

Table 3
Visual fault indicators and related fault types

Indicator	Type of fault
Major alarm on attendant consoles Red LED lit on column top cap Green LED off on module power supply Circuit breaker tripped (down) Remote alarm	Power
Major alarm on attendant consoles Red LED lit on CE card (other than the CPU interface card on the non-active CPU)	Common equipment
Minor alarm on an attendant console Red LEDs lit or flashing on associated cards	Network equipment
Red LED lit on associated card	Peripheral equipment
Red LED lit on trunk card	Trunk
Red LED lit on associated cards	Attendant console
Red LED lit on associated cards	Telephone

Maintenance display codes

Maintenance displays are located on the faceplate of some Meridian 1 circuit cards. A maintenance display shows an alphanumeric code that can indicate the status of the system and aid in fault identification. Interpretations of the maintenance display codes are listed under “HEX” in the *X11 system messages guide*.

Each new code shown on a maintenance display overwrites the one before it. However, all codes received on common equipment displays are recorded; you can review them by printing the History File. The most recent 16 codes displayed on an NT8D01 Controller Card stay in memory. You can review them and reset the counter through the Network and Signaling Diagnostic (LD 30). You should examine previous codes, system messages, and visual indicators with the current maintenance display code to properly analyze faults.

[Table 4](#) lists the cards with maintenance displays and the type of fault they might indicate.

Table 4
Maintenance display locations and related fault types

Maintenance display	Type of fault
QPC580 CPU Interface Card	Common equipment
QPC584 Mass Storage Interface Card	
NT9D34 Enhanced Mass Storage Interface Card	
NT8D19 Memory/Peripheral Signaling Card	
QPC742 Floppy Disk Interface Card	
NTND01 Integrated CPU/Memory Card	
NT5D20 IODU	
NT6D66, NT9D19, NT5D10 Call Processor	
NT6D63 Input/Output Processor	
NT5D61 Input/Output Disk Unit with CD-ROM	
NT8D01 Controller Card	Peripheral equipment
NT1P62 Fibre Controller Card	
NT7R52 Remote Carrier Interface Card	

User reports

Many faults reported by users, such as a damaged telephones or data sets, are obvious and can be fixed by replacing the damaged equipment.

Some faults are less obvious and may be caused by other equipment, such as a defective peripheral equipment card. To classify the fault in these cases, check for system messages and visual fault indications. You may also have the user reproduce the problem so you can determine the sequence of events that led to the fault.

[Table 5](#) lists typical problems reported by users and the type of fault they might indicate.

Table 5
User reported problems and related fault types

User report	Type of fault
Major alarm reported by attendant No ring on 500/2500 telephones	Power
Major alarm reported by attendant	Common equipment
Minor alarm reported by attendant Cannot transfer or conference Cannot dial out on 500/2500 telephones	Network equipment
Trouble with calls on attendant console Trouble with calls on 500/2500 telephones Trouble with calls on SL-1, M1000, or digital telephones	Peripheral equipment
Trouble with a specific trunk Continuous ringing Trouble with calls on console and/or telephones	Trunk
Trouble with calls Trouble with equipment (such as handset, headset, or display)	Attendant console
Trouble with calls Trouble with equipment (such as handset or add-on module)	Telephone